REMARKS/ARGUMENTS

The Office Action mailed October 12, 2006 has been carefully considered. Reconsideration in view of the following remarks is respectfully requested.

The 35 U.S.C. § 103 Rejection

Claims 1-15 were rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Bell[1] in view of Cai et al.[2], among which claims 1, 2, 4, 5, 6, 7, 9, 10, 11 and 13 are independent claims. This rejection is respectfully traversed.

The Examiner has agreed and stated that Bell does not disclose an inline power source included in the physical layer. Bell discloses the following.

> "FIG. 1 shows a remote powerability system 20 which is suitable for use by the invention. The system 20 is a computer network which includes a device 22-A (e.g., an IP phone) and a device 22-B (e.g., an IP switch). The devices 22-A, 22-B (collectively, devices 22) communicate with each other through a connecting medium 24. In one arrangement, the devices 22 include physical layer devices (PHY), and the connecting medium 24 includes a Medium Dependent Interface (MDI) having multiple lines for carrying signals between the devices 22 (e.g., 10BaseT, 100BaseT, etc.). The system 20 further includes a power apparatus 26 which connects with the device 22-B through connections 28. The power apparatus 26 includes a controller 30, a signal generator 32 and a detector 34. Further details of the invention will now be discussed with reference to FIG. 2."

(Bell, Col. 4, lines 18 – 33)

This portion of Bell makes clear that the PHY is included in devices 22 (see Bell, Figure 1). Figure 3 shows clearly that it is power apparatus 26 that contains control circuitry 80. Therefore if a PHY is included in Bell, it is included in device 22 and not power apparatus 26.

[1] U.S. Patent No. 6,701,443
[2] U.S. Patent No. 7,103,319

Therefore, the PHY (included in devices 22) cannot be the inline power control source as claimed.

The portion of the specification describing Figure 3 makes this distinguishing characteristic clear. In regard to Figure 3, Bell discloses the following.

As shown in FIG. 3, the device 22-A is a remotely powerable device which includes a powerability indicator formed by a diode 70 and a resistor 72 connected in series between the centertaps 68 of the transformers 64-A and 66-A. The powerability indicator provides, in response to a test signal, a response signal to the connecting medium 24 indicating that the device 22-A is remotely powerable. In particular, the powerability indicator allows current to flow in only one direction (i.e., from the transformer 64-A to the transformer 66-A) which uniquely characterizes the device 22-A as a remotely powerable device. In contrast, non-remotely powerable devices typically allow current flow in both directions.

As further shown in FIG. 3, the power apparatus 26 connects to the centertaps 68 of the transformers 64-B and 66-B of the device 22-B through the connections 28. The power apparatus 26 provides the test signal to the connecting medium 24 and receives the response signal from the connecting medium 24 through these connections 28 and the centertaps 68 of these transformers 64-B and 66-B.

The connecting medium 24 includes multiple lines 76, 78. In one arrangement, the connecting medium 24 uses 802.3 based technology (e.g., 10BaseT, 100BaseT, etc.). In this arrangement, the connecting medium 24 (e.g., Category 5 cabling) includes twisted pair wiring 76-1, 76-2 (e.g., for carrying a differential signal pair between the device 22-A and the device 22-B) and twisted pair wiring 78-1, 78-2 (e.g., for carrying a differential signal pair between the device 22-B and the device 22-A). The connecting medium 24 connects to the devices 22 through connectors 74 (e.g., RJ45 plugs and adaptors). When the remotely powerable device 22-A is properly connected to the connecting medium 24, the powerability indicator of the remotely powerable device 22-A (the diode 70) allows current to flow only in one direction, from lines 76-1, 76-2 to lines 78-1, 78-2.

The power apparatus 26, as shown in FIG. 3, includes control circuitry 80 and several direct current (DC) power supplies and switches. In particular, the power apparatus 26 includes a -48 volt (V) DC power supply 82 which is controllable by a switch 84, a -5 VDC power supply 86 which is controllable by a switch 88, and a +5 VDC power supply 90 which is controllable by a switch 92. The control circuitry 80 and switches 84, 88 and 92 form the controller 30 (see FIG. 1). The power supplies 82, 86 and 90 form the signal generator 32 (again, see FIG. 1). The power apparatus 26 further includes current detectors 94-1 and 94-2 which form the detector 34 (FIG. 1).

The control circuitry 80 is capable of selectively supplying -48 volts, -5 volts and +5 volts to the connecting medium 24 by operating the switches 84, 88 and 92. In particular, when the control circuitry 80 opens switches 84, 92 and closes the switch 88, the power supply 86 provides -5 volts to the connecting medium 24 in order to measure a current response (the response signal). Similarly, when the control circuitry 80 opens switches 84, 88 and closes the switch 92, the power supply 90 provides +5 volts to the connecting medium 24 in order to measure another current response. Additionally, when the control circuitry 80 opens switches 88, 92 and closes the switch 84, the power supply 82 provides -48 volts to the connecting medium 24 in order to provide phantom power to the device 22-A which connects to the remote end of the connecting medium 24. It should be understood that the devices 22-A and 22-B can communicate with each other through the connecting medium 24 using differential pair signals while the power supply 82 applies power to the device 22-A through the connecting medium 24, i.e., while the device 22-A draws phantom power from the power apparatus 26 through the connecting medium 24.

Furthermore, it should be understood that the power supplies 86, 90 are preferably low current power supplies, i.e., capable of limiting the current to less than an amp (e.g., 25-30 milliamps) in order to prevent damaging any non-remotely powerable devices connecting to the connecting medium 24.

In one arrangement, the control circuitry 80 includes a data processing device or processor. Here, a computer program product 98 (e.g., one or more CDROMs, tapes, diskettes, etc.) provides instructions which direct the operation of the processor. Alternatively, the processor acquires the instructions through other means, e.g., via a network download through the device 22-B, or has non-volatile storage associated with the processor (e.g., ROM, flash memory, etc.). Further details of the operation of the remote power system 20 will now be provided with reference to FIGS. 4 and 5.

(Bell, col. 5, line 36 – col. 6, line 54) (Emphasis added)

This section of Bell describes Figure 3 and makes clear that the power apparatus 26 is connected to devices 22 through connections 28 and that it is the power apparatus 26 that includes the control circuitry 80.

Applicant respectfully submits therefore that Bell only discloses a PHY as being included in devices 22 and makes no other mention of a PHY. Bell clearly discloses that control circuitry 80 is included in power apparatus 26 (and not devices 22). Therefore, the PHY of devices 22 cannot be the inline power control signal source.

The Examiner now relies on Cai and states that Cai includes an inline power source included in the physical layer. Applicant respectfully submits that Cai does not disclose or suggest an inline power source included in the physical layer. As cited by the Examiner, Cai discloses the following.

This power control method is implemented on the physical layer of system software and processing.

(Cai, col. 8, lines 45 – 46) (Emphasis added)

Cai discloses that the power control method is implemented on the physical layer. This is the only reference that Cai makes to a physical layer. So, it is important to discern exactly what is implemented on the physical layer in Cai. A thorough reading of Cai makes clear that it is the method 100 (shown in Figure 8) that is disclosed as being implemented on the physical layer. Method 100 is a process used to decide which cell or cells to transmit the power control signal to. Cai does not disclose that the power control signal source is included in the physical layer but only that the method of determining which cells to transmit the power control signal to is implemented on the physical layer.

Cai cannot be viewed as disclosing or suggesting the claimed limitation because in Cai, the power control signal is transmitted from the user equipment to the multi-cell radio sites. Cai, therefore, does not teach or suggest including the power control signal source in the physical layer.

Moreover, Bell and Cai are not permissibly combined. Bell is concerned with discovering powerability conditions of a computer network (e.g., remotely powerable devices

coupled to the network), whereas Cai is concerned with conserving power in a telecommunications system by adjusting transmission power of a broadcast channel. There is no suggestion in either Bell or Cai to suggest an advantage in their combination. Moreover, the present application fails to supply any motivation for their combination.

Additionally applicant respectfully submits Cai is non-analogous art. Cai is not in the field of applicant's endeavor, nor is Cai reasonably pertinent to the particular problem with which the inventor was concerned.

As noted above Cai is directed to conserving power, and not to a unified source for control signal for providing power. Accordingly, Cai cannot be properly deemed to be in the field of Applicant's endeavor. Applicant submits that the mere fact that Cai and the present invention are applicable to networks is insufficient to establish that Cai is "in the field of applicant's endeavor".

Cai has no pertinence to the particular problem with which the inventor was concerned. A thorough reading of Cai makes clear that the inventive concept of Cai is not in the context of an "inline" power scheme as claimed.

Additionally, Cai is not prior art and its use in rejecting the claims of this application is therefore nondispositive. Applicant reserves the right to swear behind this reference as provided for under 37 C.F.R 1.131 pending the Examiner's response to these remarks.

For these reasons applicant respectfully submits that claims 1, 2, 4 - 6, 7, 9 – 11, and 13 are not rendered obvious by Bell alone or in combination with Cai..

As to dependent claims 3, 8, 12, 14 and 15, the argument set forth above is equally applicable here. The respective base claims being allowable, the dependent claims must also be allowable.

In view of the foregoing, it is respectfully asserted that the claims are now in condition for allowance.

Conclusion

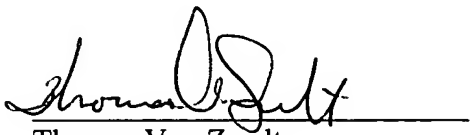
It is believed that the above-identified patent application is in condition for allowance. Early favorable consideration of this Amendment is earnestly solicited.

If, in the opinion of the Examiner, an interview would expedite the prosecution of this application, the Examiner is invited to call the undersigned attorney at the number indicated below.

Applicant respectfully requests that a timely Notice of Allowance be issued in this case. Please charge any additional required fee or credit any overpayment not otherwise paid or credited to our deposit account No. 50-1698.

Respectfully submitted,

Dated: 1/12/07



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